

1968-73 CORVETTE FRONT

Corvette (1968-73)

DESCRIPTION

Ball joint independent type front suspension system with shock absorbers mounted within front coil springs and springs mounted between lower control arms and front suspension crossmember. Upper and lower control arm pivot shafts are bolted to a fixed suspension crossmember with shims provided between upper pivot shaft and crossmember for caster and camber adjustments. A front mounted stabilizer bar is linked to lower control arms.

ADJUSTMENT

Caster & Camber – See *Wheel Alignment Specifications & Adjustment* in *WHEEL ALIGNMENT* Section.

Front Wheel Bearings – See *Wheel Bearing Adjustment* in *WHEEL ALIGNMENT* Section.

Ball Joint Checking – See *Ball Joint Checking* in *WHEEL ALIGNMENT* Section.

REMOVAL & INSTALLATION

COIL SPRING

Removal – Raise vehicle on hoist. With lower control arms hanging free, remove lower shock absorber mounting nuts and push shock up into coil spring. Place suitable spring removal tool (J-23028) in position (secure tool to a suitable jack). Remove stabilizer to lower control arm attachment. Raise jack to remove tension on lower control arm, install safety chain around spring and arm, and remove pivot bolts. Slowly lower

the control arm and remove spring. **NOTE** – Do not force coil spring out of seat; proper maneuvering will allow easy removal.

Installation – Reverse removal procedures, remove safety chain, and ensure coil spring is installed with closely spaced coils toward frame spring tower. Torque nuts and bolts to specifications.

UPPER BALL JOINT (1968-71)

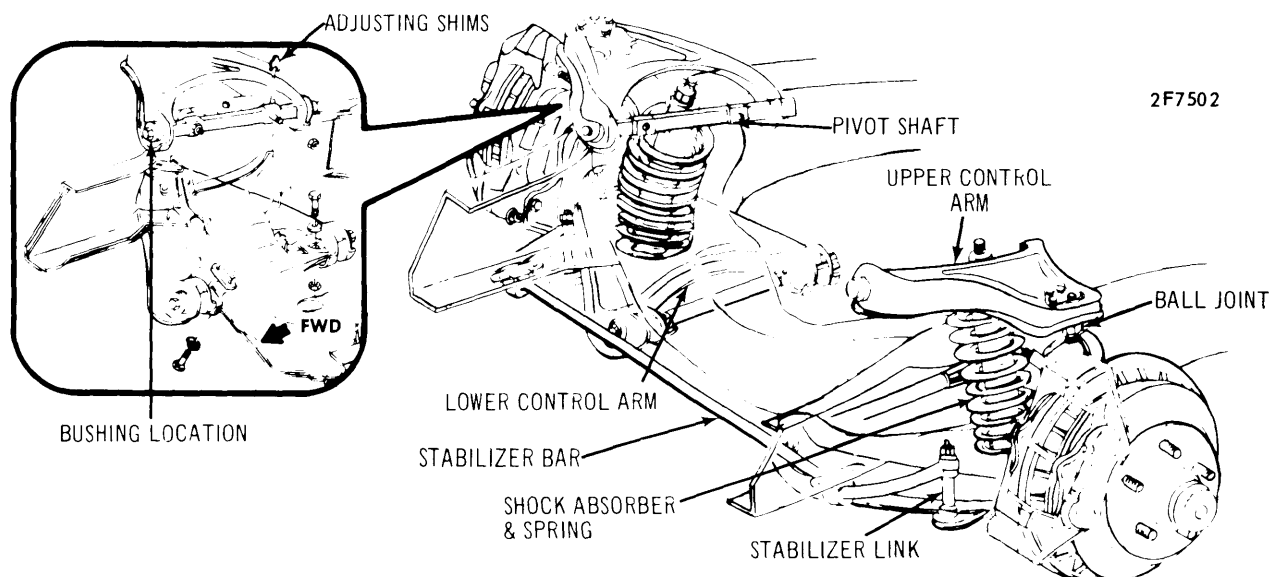
Installation – Place ball joint assembly on arm and attach with special bolts furnished in kit. Tighten to specifications. Raise lower control arm and install upper ball joint stud nut. Tighten to specification.

LOWER BALL JOINT (1968-71)

Installation – With new ball joint positioned on arm, attach with special nuts and bolts supplied in service kit. Tighten to specifications. Position ball joint stud in steering knuckle and tighten nut to specification.

UPPER & LOWER BALL JOINTS (1972-73)

Removal – Raise vehicle and support at frame rails. Remove wheel and ball stud cotter pin. Loosen, but do not remove ball stud nut. Using a suitable tool (J-23742-1) free stud from steering knuckle. Support lower control arm and remove ball stud nut, swing knuckle out of the way. Chisel or grind heads off of rivets and punch out rivets and remove ball joint. **CAUTION** – Do not damage control arm or ball joint seat.



CORVETTE FRONT SUSPENSION ASSEMBLY

1968-73 CORVETTE FRONT (Cont.)

Installation — Position new ball joint in arm and attach with bolts and nuts supplied in service kit (insert bolts from bottom). Torque to specifications. Turn ball stud cotter pin hole fore and aft. Remove support from frame and control arm. Place ball stud in steering knuckle and install nut, torque to specifications, and install cotter pin.

LOWER CONTROL ARM

Removal — Remove coil spring, as previously described. Detach steering knuckle from ball joint stud. Unbolt and remove control arm.

Bushing Removal - Remove bolt, lockwasher and collar from each end of cross shaft, then thread a 7/16" x 20 capscrew (furnished with Tool J-5888) to bottom of threads in one end of cross shaft. With control arm in arbor press on Tool J-5888-3, press on capscrew until bushing is removed. **NOTE** - Be sure bushing flange does not contact support. Repeat for other bushing.

Bushing Installation - With cross shaft in control arm and Tool J-7052-1 in position, place control arm on Tool J-5888-3, and hand start bushing into control arm and over end of cross shaft. **NOTE** - End of shaft with two bolt holes should be toward front of control arm. Install Tool J-7052-5 over bushing, being certain three-piece spacer is not overlapping bushing holes in control arm. Press bushing into control arm until flange contacts con-control arm, then invert arm in press and repeat same process on other bushing. **NOTE** - After installation, cross shaft should be free enough to be rotated by hand. Install collar, lockwasher and capscrew in each end of cross shaft. **DO NOT TIGHTEN.**

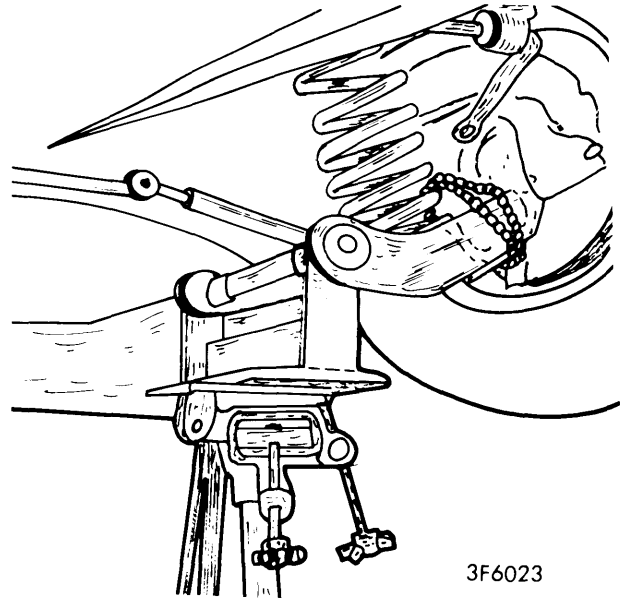
Installation — Position lower control arm and insert lower ball joint stud into steering knuckle. Install nut and cotter pin and torque to specification. Install coil spring, as previously described. Tighten nuts and bolts to specifications.

UPPER CONTROL ARM

Removal - With car raised and supported at outer end of lower control arm, remove wheel and tire assembly, then remove nut from upper control arm ball stud and remove ball stud from steering knuckle. Remove two nuts retaining upper control arm shaft to front crossmember, and note number of shims at each bolt, then remove control arm.

Bushing Removal — Remove capscrews, lock washers, and collars from both ends of cross shaft. Install 3/8 x 24 cap screw in one end of cross shaft. Install suitable tools (J-5888-3 & J-7052-2) on control arm and position in arbor press. Press out and discard bushing. Repeat procedure on other end of control arm. Remove capscrew from cross shaft.

Bushing Installation - With control arm in arbor press and Tool J-7052-2 in place, press in one bushing while arm is supported by Tool J-5888-3. Install cross shaft in arm, invert in press, and press in second bushing. **NOTE** - Cross shaft should be free enough to be rotated by hand. Install collar, lockwasher and capscrew in ends of cross shaft. **DO NOT TIGHTEN.**



REMOVING CORVETTE COIL
SPRING

Installation — Position control arm in vehicle and install bolts and nuts retaining cross shaft to frame. Install shims in original position, torquing nuts to specifications. **NOTE** — Tighten thinner shim pack nuts first, for improved torque retention. Install ball stud through knuckle and torque nut to specification. Install wheel and tire assembly and lower vehicle. With full vehicle weight on suspension, torque shaft retainer bolts (and/or nuts) to specifications.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Cross Shaft-to-Frame (Lower)	
Front Bolts.....	70
Rear Bolts	95
Stabilizer Bar Link-to-Control Arm	
1968-70	15
1971-73	20
Ball Joint-to-Control Arm [Ⓢ]	
1968-70	20
1971-73	25
Upper Ball Joint-to-Steering Knuckle.....	50
Lower Ball Joint-to-Steering Knuckle	
1968-71	80
1972-73	90
Cross Shaft-to-Frame (Upper)	
1968-71	35-40
1972.....	60
1973.....	50

Ⓢ — Upper & lower ball joints. Torque indicated is for service replacement parts.